

## CLAIMS

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1. A method for receiving a radio communication in a radio communication system, the method comprising:
- among a plurality of mobile stations, selectively assigning one mobile station of the plurality of mobile stations as a first mobile station for receiving radio communications;
- receiving the radio communication at the first mobile station of the plurality of mobile stations; and
- transmitting a local radio communication from the first mobile station to an intended recipient mobile station of the plurality of mobile stations.
2. The method of claim 1 wherein selectively assigning comprises: among the plurality of mobile stations, identifying a mobile station having particular battery characteristics; and assigning the mobile station as the first mobile station for receiving radio communications.
2. The method of claim 1 wherein selectively assigning comprises: among the plurality of mobile stations, sequentially assigning one mobile station of the plurality of mobile stations as the first mobile station.
4. The method of claim 1 wherein selectively assigning comprises: among the plurality of mobile stations, assigning the first mobile station to receive the radio communication.
5. The method of claim 1 wherein selectively assigning comprises: assigning the first mobile station to receive radio communications during a predetermined time period.
6. The method of claim 1 wherein selectively assigning comprises:

assigning the first mobile station to receive radio communications; and subsequently, de-assigning the first mobile station and assigning another mobile station of the plurality of mobile stations to receive radio communications.

7. The method of claim 1 wherein selectively assigning comprises: among the plurality of mobile stations, identifying a mobile station having best radio reception characteristics; and assigning the identified mobile station as the first mobile station.

8. The method of claim 1 further comprising: decoding data in the radio communication; identifying an intended recipient in the data; and when the intended recipient corresponds to a mobile station of the plurality of mobile station, transmitting the local radio communication from the first mobile station to the intended recipient mobile station.

9. The method of claim 8 further comprising: when the intended recipient does not correspond to a mobile station of the plurality of radio stations, discarding the radio communication.

10. The method of claim 1 further comprising: transmitting from one mobile station of the plurality of mobile stations to a remote radio of the radio communication system identification information for each mobile station of the plurality of mobile stations.

11. The method of claim 10 further comprising: transmitting radio communications intended for any mobile station of the plurality of mobile stations during a common predefined time period.

12. The method of claim 1 further comprising:  
receiving the radio communication in accordance with a first radio  
communication protocol; and  
5 transmitting the local radio communication in accordance with a second  
radio communication protocol.

13. The method of claim 12 further comprising:  
transmitting the local radio communication at a relatively low transmit  
10 power for local reception by the plurality of mobile stations.

14. A mobile station operable in a radio communication system, the mobile station comprising:

a first radio circuit;

a local radio circuit; and

5 a control circuit operable in conjunction with the first radio circuit to decode a radio communication and operable in conjunction with the local radio circuit to transmit a local radio communication in response to the radio communication.

10 15. The mobile station of claim 14 wherein the control circuit is further operable to identify an intended recipient of the radio communication and transmit the local radio communication to an associated mobile station when the intended recipient is the associated mobile station.

15 16. The mobile station of claim 14 wherein the first radio circuit comprises:

a receiver operable on a cellular radio communication system; and

a transmitter operable on the cellular radio communication system.

20 17. The mobile station of claim 16 wherein the local radio circuit comprises:

a local receiver operable in a short range radio communication system

including at least the associated mobile station; and

a local transmitter operable in the short range radio communication system.

18. A portable electronic device comprising:  
receiving means for receiving downlink radio transmissions; and  
local transmitting means for radio communication of data to an associated  
portable electronic device in response to the downlink radio transmissions.

19. The portable electronic device of claim 18 further comprising:  
decoding means for decoding the downlink radio transmission in  
conjunction with the receiving means.

20. The portable electronic device of claim 19 further comprising:  
control means for determining an intended recipient of the downlink radio  
transmission.

21. A method for operating a mobile radio communication station, the method comprising:

receiving a downlink radio transmission;

determining an intended recipient of the downlink radio transmission; and

when the intended recipient corresponds to an associated mobile station,

transmitting information about the downlink radio transmission to

the associated mobile station on a low power local radio link.

22. The method of claim 21 further comprising:

using the low power radio link, coordinating reception of subsequent

downlink radio transmissions among a plurality of mobile radio

communication stations including at least the associated mobile

station.

23. The method of claim 22 wherein coordinating reception comprises:

assigning a respective reception interval to each mobile radio

communication station of the plurality of mobile radio

communication stations.

24. The method of claim 22 wherein coordinating reception comprises:

dedicating one mobile radio communication station of the plurality of

mobile radio communication stations to reception of subsequent

downlink radio transmissions based on a reception parameter.

25. The method of claim 24 wherein dedicating comprises:

determining received signal strength for at least one downlink radio

communication;

comparing respective received signal strengths for each mobile radio

communication station of the plurality of mobile radio

communication stations; and

communicating as the one mobile radio communication the  
communication having best respective receive

26. A radio communication method comprising:  
cooperating among a plurality of locally positioned mobile stations to  
assign one mobile station of the plurality of locally positioned  
mobile stations to receive downlink radio transmissions from a  
remote base station in a radio communication system;  
at the one mobile station,  
receiving a downlink radio communication at the one mobile station  
in accordance with a first radio communication protocol of  
the radio communication system,  
decoding the downlink radio communication to identify an intended  
recipient of the downlink radio communication, and  
when the intended recipient is another station of the plurality of  
locally positioned mobile stations, transmitting information  
about the downlink radio communication to the other mobile  
station using a low-power local radio communication  
protocol.

27. The radio communication method of claim 26 wherein transmitting  
information comprises transmitting data in accordance with the Bluetooth radio  
communication protocol.



28. A radio communication method comprising:  
defining a local group of mobile stations in radio communication with one  
or more remote radios of a radio communication system;  
within the local group, assigning a first mobile station for receiving  
downlink transmissions from the one or more remote radios;  
subsequently, receiving the downlink transmissions;  
identifying in the downlink transmissions data intended for one or members  
of the local group; and  
communicating the data from the first mobile station to the one or more  
members over a local radio communication system.

29. A method comprising:  
wirelessly communicating among a local group of electronic devices;  
receiving at an assigned electronic device a radio transmission;  
at the assigned electronic device, determining one or more intended  
recipients of the radio transmission;  
when the one or more intended recipients corresponds to a member of the  
local group other than the assigned electronic device, wirelessly  
communicating to the member information about the radio  
transmission.

30. The method of claim 28 wherein wirelessly communicating  
comprises:  
transmitting data from a first member of the local group intended for one or  
more other members of the local group; and  
receiving the data at at least some of the one or more other members of the  
group.

31. The method of claim 28 further comprising:  
assigning the assigned electronic device for receiving radio transmissions  
for all members of the local group.

32. The method of claim 31 wherein assigning comprises:  
designating one electronic device of the local group as the assigned  
electronic device based on a performance characteristic for at least  
some of the members of the local group.

33. The method of claim 33 further comprising:  
measuring a reception characteristic at at least some members of the group;  
wirelessly communicating information about measured reception  
characteristics to other members of the group; and

designating the one electronic device as the assigned electronic device  
based on the measured reception characteristics.

34. The method of claim 31 further comprising:  
de-assigning the assigned electronic device; and  
assigning a next assigned electronic device for receiving the radio  
transmissions for all members of the local group.

35. The method of claim 31 further comprising:  
distributing assignment for receiving radio transmissions for all members  
of the local group among all members of the local group..

36. The method of claim 29 further comprising:  
distributing assignment for receiving radio transmissions among members  
of the local group.

37. The method of claim 29 wherein receiving a receiving a radio  
transmission comprises:  
detecting a downlink transmission from a remote radio;  
decoding the downlink transmission to extract data embedded in the  
downlink transmission; and  
identifying the one or more intended recipients in response to the data.

38. The method of claim 29 wherein wirelessly communicating  
comprises:  
transmitting information from a first electronic device according to a  
predefined wireless data communication protocol; and  
receiving the information at at least a second electronic device.

39. The method of claim 38 wherein the predefined wireless protocol  
comprises the Bluetooth standard.